



MX5000 MaxxDSP Product Brief

The MX5000 is the first in a family of MaxxDSP audio processors from Waves. The MX5000 is preprogrammed with Waves MaxxAudio psychoacoustic algorithms to compensate for size, power and positioning acoustic limitations in small loudspeakers systems. It is ideal for mainstream consumer electronic products with active 2.0 and 2.1 speakers including televisions, portable audio, mini-systems and USB speakers.

Software Features/Algorithms:

Frequency Compensation

+ MaxxBass® bass extension

+ MaxxTreble™ high freq extension

+ 5-band parametric MaxxEQ™

Dynamics Compensation

+ MaxxVolume™

+ Auto Input Leveler

Imaging Compensation

+ MaxxStereo™ wide stereo

Simple Control Options

+ Extensive I²C Slave commands

+ I²C Host boots from ext serial flash

+ Standalone mode

Hardware Features:

24bit DSP core

Preprogrammed algorithms in ROM

48, 44.1 and 32kHz sample rate support

Analog Audio I/O (4Vpp)

+ stereo ADC with 3:1 input mux

+ stereo plus subwoofer DAC

Digital Audio I/O

+ 3 stereo inputs, 2 stereo outputs

Audio Control Pins

+ Control ADC (8-bit) with 8 input pins

+ Amp_Mute out, HP_Sense jack input

5V analog/1.8V core – low power design

40-lead QFN package (6 x 6 x 0.9mm)

The system designer requires no audio algorithm or DSP programming experience to utilize the MaxxAudio technologies, the industry's most advanced loudspeaker compensation algorithms. The OEM establishes several presets to optimize audio for their target speaker system, while the consumer can be provided familiar controls that deliver superior sound than the traditional linear controls.

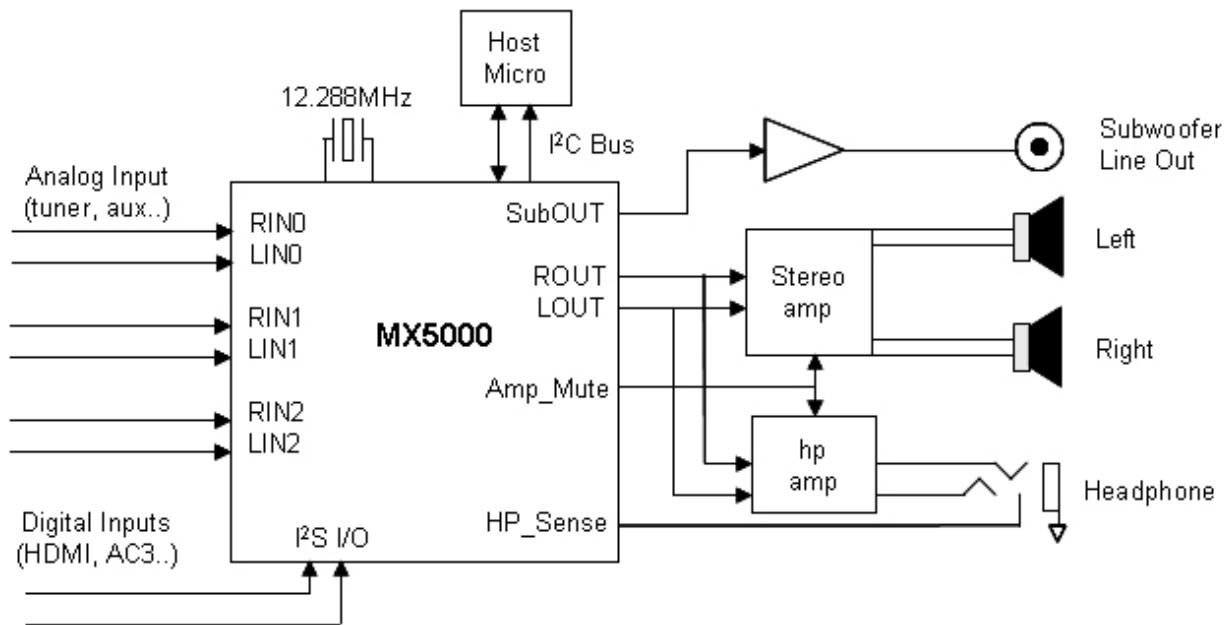
- **MaxxVolume** replaces the traditional user volume control. MaxxVolume combines high level limiting, low level compression and noise gating. It delivers higher maximum volume output without audible distortion or increased amplifier and speakers costs. It also improves clarity in noisy environments.
- **MaxxBass** and **MaxxTreble** replace traditional Bass and Treble controls, while delivering extended frequency response and more natural sound quality.
- **MaxxStereo** widens the audio image from closely spaced stereo speakers.

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Application Examples

Television System in I²C Slave Mode



Active Speaker System in I²C Host Mode

